

8 30. The method of claim 22¹ wherein the zones are arranged symmetrically about the center of the masking aperture.

9 31. The method of claim 22¹ wherein the zones are arranged asymmetrically about the center of the masking aperture.

A5 10 32. The method of claim 22¹ the zones have one shape selected from the group consisting of circles, squares, rectangles, ellipses, rings, circular rings, square rings and combinations thereof.

11 33. The method of claim 22¹ wherein the selected shape is a stepped square.

12 34. The method of claim 22¹ wherein the zone(s) is shaped in an ellipse and the major axis of each ellipse is aligned at a 45 degree angle with respect to the center of the masking aperture.

IN THE ABSTRACT

Cancel the current ASBTRACT and insert the following:

ABSTRACT

A6 An illumination system for a microlithographic stepper has a light source that emits light of selected wavelength(s) along an optical path toward a photomask. An aperture mask is positioned in the path of the illumination light and between the light source and the photomask. The aperture mask has a dithered pattern of pixels. The intensity of the pattern controls the illumination of the photomask. The masking aperture pattern defines one or more zones of illumination. Each zone has elements that are patterned in accordance with a selected wavelength of incident light to diffract the incident light into an illumination pattern for illuminating a photomask. Each of the elements is constructed with a matrix of pixels. In the preferred embodiment the array of pixels is 8 x 8. The number of elements is generally greater than 3 x 3.